

Scale and Inhabitation: On the Human Figure in Architectural Representations

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I very often find myself asking students — as I was asked during my design education — to include human figures in their drawings. To me this seems a natural thing to do, because a human figure provides a simple and clear indication of dimension in a scaled orthographic drawing and can help to contribute a proper sense of depth to a perspectival representation. More recently I have begun to realize that such figures provide more than an indication of scale; they also show how a designer anticipates a building will be inhabited. If well executed, these figures can also demonstrate what sort of experiences the designer is hoping to facilitate in a building. Acting on these realizations, I have transformed, in my own thinking and teaching, the role of the scale figure: it is no longer merely a metric figure, but a device which helps to project in a drawing some of the immeasurable qualities of architecture, qualities which are otherwise difficult to represent.

METAPHORICAL BODIES

To understand how depictions of the human body might figure into contemporary architectural representations it will be useful to discuss briefly the body's historical role in configuring architecture. The story is one of declining emphasis: the human body, long considered to be the very basis of metric and proportioning systems in architecture, now plays little if any part in either.'

Before the French Revolution and the invention of the Metric System, members of the human body formed the basis of nearly all Western systems of linear measure. Such systems relied on generalized bodies to be sure, but they provided a framework into which the experience of one's own body could contribute to one's understanding of the scale of buildings (and could function as an aid in building construction).? Today, the connection between contemporary metric systems and the human body is distant, even in places that continue to employ anthropometric systems. For example, it would be difficult to argue that architecture in the United States, where such a system is standard, is any more closely allied to human scale than in Europe, where the Metric System is standard.'

Perhaps more important than the scale of the human body

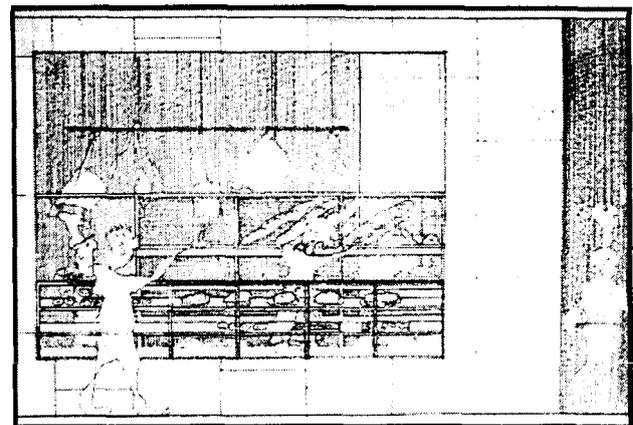


Fig. 1: Alex T. Anderson, A Food School Bakery.

in Classical and Renaissance architecture were its proportions. Until the eighteenth century it was almost universally accepted that good architecture and well-proportioned architecture were synonymous. Taking the human body as their model, architects believed that they could reconcile their buildings with the proportions sanctioned by universal natural law — the same proportions that ruled harmony in music and the motions of the heavens. The human body, being accessible both physically and intellectually, provided architects with an ideal instance of the harmonic proportions that, if emulated properly, would assure the fitness of their buildings ~ . ~

Clearly, however, human bodies come in a variety of proportions. The first radical, if rather oblique, questioning of this relationship did not occur until just before the beginning of the eighteenth century. Claude Perrault, in two important architectural works — a commentary on Vitruvius' ten books and a treatise on the architectural orders — directly challenged the notion that the application of Classical harmonic proportions (and by implication the idealized proportions of the human body) insured architectural beauty. Indeed, he contended that taste had much to do with one's sense of beauty, and that "fancy" had played a role in defining Classical proportions that eventually came to be taken as "ideal."

A little more than a century later, J. N. L. Durand challenged the notion that Classical proportions served architecture in any but the most utilitarian ways.⁷ Unless they made architecture easier and less costly to produce, they were of little value. His was an architecture whose origins lay in the rational mind, not the body. Almost simultaneously, the First French Republic eliminated by decree anthropocentric systems of measure, consolidating and rationalizing dimension and time in the base-ten Metric System.⁸

By the end of the eighteenth century metric and metaphorical connections between architecture and the human body had been severed. However, direct physical relationships between the body and buildings took on increasing importance in architecture. Developing from concerns for practicality in France and increasing demands for domestic comfort in England, the architecture of the nineteenth and twentieth centuries reveals many attempts to reconnect the human body with architecture.⁸ Architectural representations, and the scale figures in them, demonstrate something of this struggle.

ENGAGED BODIES

How do architectural representations portray the body's connection with architecture? How, moreover, might they contribute to the creation of an architecture that both accommodates and reflects human action?

The human body has always been insinuated in perspectival representations of architecture. It is presumed in the observing eye whose position and sweep is reflected in the horizon, and whose point of view marks a subjective presence.⁹ Even emptied of visible life, a perspective drawing — or a photograph — maintains a strong observing presence, which generally carries with it a presumed human scale, marking the position of the eye approximately five feet above the ground line. This presence is made all the more vivid in computer-generated 'walk-throughs' of projected spaces. In these 'animations' the observer appears to occupy the space by passing through it. The presumption that this is human presence is strong enough that architectural drawings which adjust the position of the horizon often appear to fall out of human scale (becoming instead bird's-eye, or worm's-eye views).

Thus even in an apparently un-populated scene, a perspectival representation typically presumes presence in it. This is why they are so useful in representing architecture. In the perspectival drawings of Sebastiano Serlio, for example — many of which represent stage sets — one at first feels out of scale, as if dwarfed by the scene or standing at a great distance from it. Despite this sense, however, observers find themselves mentally adjusting the scene before them, forcing the scale to fit the incipient action in it. This is consistent with the demands of theater: that one suspend incredulity in order to engage the scene and the action presented.¹⁰ Similarly, in a perspectival drawing, one is unable to rely on a credible reference frame — like the metric scale presented at the base of orthographic drawings — to give it dimension. In order to

do so, one must project a sense of one's self into it.

Perspectival representations can also *portray* human presence. Most often this appears in the shape of human figures; however, even familiar objects depicted in a scene can lend a sense that a space might engage human actions in a particular way. This is particularly true, for example, of photographs that Le Corbusier published of his work. In his photographs of the Villa Savoye, one gets the unusual sense that one is not merely an observer of a scene, but witness to an event that has just occurred in it. Though actual human figures do not appear in these photographs, a sense of human scale is maintained both by the position of the observer's eye, and by the familiar objects that a fleeting subject has evidently "just" left behind. It is this fleeting, enigmatic subject that demands one's engagement in the photograph and, in turn, in the space presented. The devices that Le Corbusier employs are instructive because they indicate the degree to which we want to give narrative structure to representations of architectural space. We want to make it appear to be lived, rather than merely constructed space. For students of architecture familiar objects, which are often less intimidating to draw than human figures, might stand in for the "expressive figures" that invigorate architectural drawings.

The heavily populated perspectival drawings that appeared so commonly in the centuries preceding the twentieth provided remarkable demonstrations not only of the efficacy of using the human figure to indicate scale, but the extent to which human engagement with a building helps to constitute its character. Very rarely do the figures in architectural perspectives assume the enigmatic characteristics of orthographic "scale figures" — flat, stiff, unmoving. Rather, they represent in their momentary dramas, the potential life, or the many potential lives that can unfold in a building. Often the improbable simultaneity of events occurring in a single drawing seems to heighten its sense of reality by showing not only what might happen in a building at a particular moment, but also by anticipating the many traces that events leave behind them on the physical edifice and in human memory. Such drawings demonstrate that architecture must encompass far more than the physical construction of a building, but that it also provides a framework for living — which is ephemeral but permanent and accretive. This point is made convincingly in the perspectival drawings that Denis Diderot employed extensively when representing the crafts and métiers in the *Encyclopedie*. In each drawing, representation of the architecture is clearly subsidiary to the human figures employed in the tasks of the métier, yet the space presented is ineffably complete. The figures, depicted in the midst of their most crucial gestures, help to establish the spatial and temporal relationships that constitute the processes of manufacture. The drawings are thus highly expressive not merely of projected space, but of complex processes that take place in it. What these drawings describe, as Diderot himself notes, would be much more difficult and tedious to describe in words."

Le Corbusier employed human figures to similar effect in

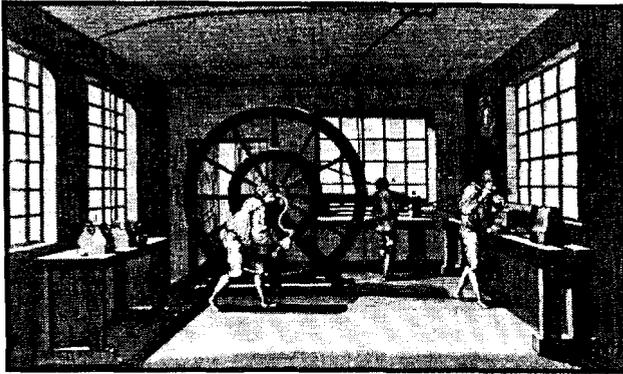


Fig. 2. Denis Diderot. Workshop of a lathe-worker. From the *Encyclopédie*.

perspectival drawings of his interiors. In contrast to the interior photographs of his built works, Le Corbusier frequently peopled interior perspectives of his architectural projects. Often the figures, shown engaged with familiar objects in the space (a baby playing in a playpen, a man punching a bag in the "suspended garden," another eating at a table, a woman airing a rug on a balcony railing), were intended to demonstrate how inhabitation would gradually change the edifice by providing variety and softening hard edges. Such effects were particularly important for him to demonstrate in immeuble projects, where individual apartment cells would have been otherwise indistinguishable from each other. monotonous and potentially oppressive. He employed human figures to illustrate his belief that architecture acts as a frame for life, and that, consequently, the uniformity of his immeuble projects could support and reveal the efflorescence of many lives lived simultaneously in them."

ENIGMATIC FIGURES

Given the important role that human figures play in indicating the life of spaces in perspectival drawings, it is perhaps surprising that they so rarely figure similarly into orthographic drawings. This is in part because, by convention, an orthographic drawing includes a graphic and textual key that provides an accessible, scaled measure for the drawing. Because orthographic drawings are uniformly scaled, this key provides all of the information necessary to determine the projected dimensions of the thing depicted. However, in building construction documents this key is generally not adequate, and is almost always supplemented by projected dimensions labeled directly on the drawing. These dimensions eliminate the need for measuring a drawing and scaling to the required size (thus also eliminating the need for absolute precision in the drawing). In presentation drawings, this key is similarly inadequate, since it does not convey effectively a *sense* of scale. A scale figure often serves as antidote to this problem, since it provides at a glance a recognizable, if generalized, dimension to which the rest of the drawing can refer.

When its function is solely to indicate scale, a figure need

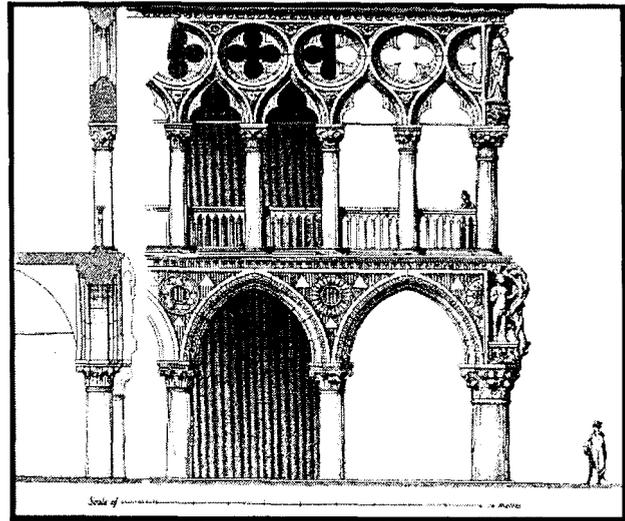


Figure 3: Emmanuel Viollet-le-Duc. The Doge's Palace

not be gestural or expressive. Indeed scale figures are often rather stylized, reduced as far as possible to their five-and-one-half or six foot dimension. The difference between the expressive figures typical of architectural perspective and the scale figures typical of orthographic drawings is made evident in drawings that Eugène-Emmanuel Viollet-le-Duc made of two palaces in Venice. In a bird's-eye, sectional perspective view of "A Venetian Palace," Viollet-le-Duc includes four figures: one sits on a gondola in the canal; a second lounges on a bench in the canal-level gallery, apparently reading; a third, robed figure stands in the great hall with hands outstretched, face turned toward the viewer; a fourth appears on the stairway, several steps short of the second floor. Though these figures make it easy to perceive the scale of the building, their primary role is evidently to indicate how various parts of the building might be used. This cannot be said of the figures that appear in the elevation and sectional view of the Doge's palace. In this drawing Viollet-le-Duc includes two figures and a graphic scale. Slightly to the left of the edifice stands a caped figure, stiff-legged, face turned in full profile. A second figure, also seen in profile, stands in the shadows on the upper gallery. The scale of ten meters, subdivided into meter and decimeter increments, indicates that the figures are 1.8 meters tall. The figure on the right, in particular, can serve no other purpose than to indicate scale, while the figure on the left serves to indicate the scale of the gallery and, by drawing attention to a sectional drawing farther to the left, the height of its floor.

Robert Venturi utilizes similarly inexpressive figures, although he has reduced them further, typically rendering them so that the only discernible features on them are the inverted V of the legs and a small head, separated slightly from sloping shoulders. As such they perform very well as scale figures. Unlike Viollet-le-Duc and many other of his predecessors, however, Venturi also reduces the figures in his perspectival drawings to rather spare outlines (though not so spare as in his orthographic drawings). In a photomontaged

interior perspective of his "Buildingboard" project, the figures have been cut out of other contexts to be placed into the space. They are, moreover nearly indistinguishable from their context, in which similar figures are shown to be two-dimensional representations of people posted on the walls and ceilings. In a project for the Western Plaza on Pennsylvania Avenue in Washington, D.C. the many human figures in the perspectival drawing actually appear to have been cut *out* of the space, rather than placed into it. Even in the famous photograph of the Vanna Venturi house, Venturi's mother appears more as a scale figure than as the building's inhabitant. She has been positioned outside of the house, squarely seated on a chair at the building's centerline, in the plane of the front facade.

The inexpressive quality of Venturi's scale figures is clearly intentional. Because his projects are themselves highly demonstrative, expressive figures would likely muddle the clarity of his drawings. Yet Venturi's scale figures are also indicative of an attitude toward architecture that leaves little room for human inhabitation to affect buildings over time. This attitude contrasts strongly with Le Corbusier's assertion that architecture acts as a frame for life. It is an attitude that fixes meaning in the physical structures of architecture rather than in a dialectical exchange with its inhabitants.¹³

PROJECTED CORPOREALITY

What I would hope to gain by using expressive figures — rather than merely scale figures — in all types of architectural representations is a means of indicating that particular scenarios, and in turn inhabitation over time, lend significance to buildings. Carlo Scarpa has done this well. In a section drawing for the pavilion in Brion Vega Cemetery, Scarpa includes three figures, presumably representations of the same individual in various positions: one standing facing the viewer, one standing in profile and a third seated in profile. These figures give an adequate indication of scale, but they also demonstrate how the occupant of the pavilion affects her own sense of it. For the seated figure the oppressive mass of the canopy resting heavily on slender pillars would be clearly evident; this would not be so for the standing figures over whose heads the canopy seems to lift and deform itself. In this very simple drawing, Scarpa indicates that this pavilion relies for its significance on direct interaction with human beings.

Drew Leder, a contemporary philosopher, declares that the human body inhabits the world via "a complex dialectic wherein the world transforms [one's] body, even as [one's] body transforms its world.... the very house in which one dwells is both a reconstruction of the surrounding world to fit the body and an enlargement of our own physical structure...."¹⁴ I believe that this notion is fundamental to architecture. If it is the role of architectural representations to describe what architecture is, or what it might be, then they must be able to express, at all stages of the design process, that architecture and the human body are inextricably joined. Human figures can and should play a crucial role in this task; however, it is not merely scale figures that architectural

representations require, but expressive figures that might help us to envision the meaning that develops as people inhabit architectural constructions.

NOTES

- ¹ See Rudolf Wittkower, "The Changing Concept of Proportion," *Idea and Image: Studies in the Italian Renaissance* (London: Thames and Hudson, 1978), pp. 109-123.
- ² It should be noted that such generalizations have almost always tended to favor some and exclude others, placing much "out of reach" both physically and metaphorically to those who do not conform well to the generalized model. The comfort of women, for example, in a domestic world built to the dimensions of a "typical" six-foot human was almost universally overlooked until the 1840's, when the feminist movement began to gather momentum. See Siegfried Giedion, *Mechanization Takes Command* (New York: WW Norton & Company, 1948), part VI.
- ³ In the American System, the foot is the only easily discernible reference to the body that remains. The meter was originally taken as 1/4,000,000 of the length of the Equator. It is now based on the wavelength of red-orange light transmitted through the element krypton.
- ⁴ For a thorough discussion of human proportions and their place in architecture see Joseph Rykwert, *The Dancing Column: On Order in Architecture* (Cambridge, Mass.: The MIT Press, 1996), pp. 27-67.
- ⁵ Claude Perrault, *Les Dix Livres d'Architecture de Vitruve*, Paris 1684. Claude Perrault, *Ordonnance des Cinq Espèces de Colonnes*, Paris, 1683. See Alberto Pérez-Gómez, *Architecture and the Crisis of Modern Science* (Cambridge: MIT Press, 1983), chapter 1. See also, Joseph Rykwert, *The First Moderns: the Architects of the Eighteenth Century* (Cambridge: MIT Press, 1980), chapter 2.
- ⁶ I. N. L. Durand, *Précis des Leçons d'Architecture Données à l'École Royale Polytechnique* (Paris, 1819), 2 vols., vol. 1, p. 6. See also Alberto Pérez-Gómez, *Architecture and the Crisis of Modern Science* (Cambridge, Mass.: The MIT Press, 1983), p. 299.
- ⁷ The metric system was developed by the French Academy of Sciences in the 1790's, and was officially adopted in 1840. The First Republic also eliminated the guild system of education in manual trades, effectively eliminating haptic experience as an educational tool.
- ⁸ On the demand for domestic comfort, see for example, John Ruskin, *The Seven Lamps of Architecture*, 2nd ed. (New York: Dover Publications, 1989), pp. 17-18.
- ⁹ For an explanation of the distinctive role of the observer in perspective drawings see Bernard Schneider, "Perspective Refers to the Viewer, Axonometry Refers to the Object," *Daidalos* 15 September (1981), pp. 81-95. For a more thorough treatment of the development and significance of perspectival representations see Erwin Panofsky, *Perspective as a Symbolic Form*, trans. Christopher S. Wood (New York: Zone Books, 1991).
- ¹⁰ On the role of the spectator in theater see Jean Genet, *Reflections on the Theater and other Writings*, trans. Richard Seaver (London: Faber & Faber), pp. 64-65.
- ¹¹ Denis Diderot, "Prospectus," *Oeuvres complètes* (Paris, 1875 - 1879), ed. Assezat et Tourneux, vol. 13, p. 142. See also Anthony Vidler, *The Writing of the Walls: Architectural Theory in the Late Enlightenment* (Princeton: Princeton Architectural Press, 1987), pp. 24-28.
- ¹² Le Corbusier, *The Decorative Art of Today*, trans. James I. Dunnett (Cambridge, Mass.: The MIT Press, 1987), pp. 77, 137.
- ¹³ See Drew Leder, *The Absent Body* (Chicago: The University of Chicago Press, 1990), p. 34. See also Michel Serres, "Visit to a House," *Daidalos* Vol. 41, 15 September (1991), pp. 88-91.
- ¹⁴ Drew Leder, 34. See also Elaine Scarry, *The Body in Pain* (New York: Oxford University Press, 1985), pp. 38-39.